Internal wall - iwmxxi03a-02
internal wall, solid wood construction, with dry lining, other surface

Performance rating

Fire protection performance **REI** 60

maximum ceiling height = 3 m; maximum load $E_{d,fi}$ = 32 kN/m

Classified by HFA

Germany

REI 30

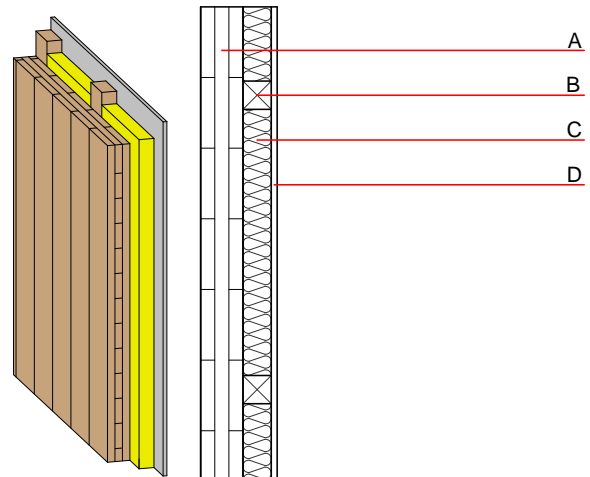Load $E_{d,fi}$ according to the German certification document

Corresponding proof: manufacturer-specific

Acoustic performance	R_w (C;C$_{tr}$)	36(-2;-5) dB
	$L_{n,w}$ (C$_I$)	

Assessed by Müller-BBM

Mass per unit area **m** 62.00 kg/m^2

Calculation based on gypsum plaster board type DF

A
B
C
D

Note: The fire resistance is only valid when wall is used as partition with only one side exposed to fire.

Register of building materials used for this application, cross-section (from outside to inside, dimensions in mm)

	Thickness	Building material	Thermal performance				Reaction to fire
			λ	µ min – max	ρ	c	EN
A	94.0	cross laminated timber	0.130	50	500	1.600	D
B	60.0	spruce wood battens (60/60; e=625)	0.120	50	450	1.600	D
C	60.0	Wood fibre insulation [039; 45]	0.039	1 - 2	45	2.100	E
D	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
D	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m^2)

Database ecoinvent

OI3$_{Kon}$	20.0

Calculated by HFA

Database GaBi (ÖKOBAUDAT)

Built-in renewable materials	kg	51.880
Biogenic carbon in kg CO$_2$-e.	kg CO$_2$	74.730
Energy use of Primary Energy	MJ	662.940
Share of renewable PE	%	39.50

Calculated by TUM

Details of sustainability rating

Database ecoinvent

Lifecycle	GWP	AP	EP	ODP	POCP	
(Phases)	[kg CO_2-e.]	[kg SO_2-e.]	[kg PO_4-e.]	[kg R11-e.]	[kg Ethen-e.]	
A1 - A3		0.114	0.048	2,13E-6	0.037	

Lifecycle	PERE	PERM	PERT	PENRE	PENRM	PENRT
(Phases)	[MJ]	[MJ]	[MJ]	[MJ]	[MJ]	[MJ]
A1 - A3	37.864	734.606	772.470	393.863	20.351	414.214

Database GaBi (ÖKOBAUDAT)

Lifecycle	GWP	AP	EP	ODP	POCP	
(Phases)	[kg CO_2-e.]	[kg SO_2-e.]	[kg PO_4-e.]	[kg R11-e.]	[kg Ethen-e.]	
A1 - A3		0.077	0.016	2,45E-6	0.016	
C1 - C4		0.002	0.000	1,40E-7	0.000	
A1 - C4		0.081	0.017	2,60E-6	0.016	

Lifecycle	PERE	PERM	PERT	PENRE	PENRM	PENRT
(Phases)	[MJ]	[MJ]	[MJ]	[MJ]	[MJ]	[MJ]
A1 - A3	260.610	971.120	1229.670	379.900	17.600	396.970
C1 - C4	0.840	-965.970	-965.120	15.980	-9.550	6.430
A1 - C4	261.830	5.410	265.180	401.110	8.100	408.680